PTO/SB/17 (12-04) Approved for use through 07/31/2006. OMB 0651-0032 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE Complete if Known Effective on 12/08/2004. rsuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). Application Number 10/684,120 Filing Date 10/10/2003 For FY 2005 Christof Baur et al. First Named Inventor **Examiner Name** Berman, Jack I. Applicant claims small entity status. See 37 CFR 1.27 Art Unit 2881 TOTAL AMOUNT OF PAYMENT (\$) 555.0034003.55 Attorney Docket No. METHOD OF PAYMENT (check all that apply) Check Credit Card Money Order None Other (please identify): Deposit Account Name: Haynes and Boone, LLP ✓ Deposit Account Deposit Account Number: 08-1394 For the above-identified deposit account, the Director is hereby authorized to: (check all that apply) Charge fee(s) indicated below Charge fee(s) indicated below, except for the filing fee Charge any additional fee(s) or underpayments of fee(s) Credit any overpayments under 37 CFR 1.16 and 1.17 WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. **FEE CALCULATION** 1. BASIC FILING, SEARCH, AND EXAMINATION FEES **FILING FEES** SEARCH FEES **EXAMINATION FEES Small Entity Small Entity** Small Entity **Application Type** Fee (\$) Fee (\$) Fees Paid (\$) Fee (\$) Fee (\$) Fee (\$) Fee (\$) Utility 300 200 150 500 250 100 200 Design 100 100 50 130 65 Plant 200 100 300 150 160 80 Reissue 300 150 500 600 300 250 Provisional 200 100 0 0 O 2. EXCESS CLAIM FEES **Small Entity** Fee (\$) Fee Description Fee (\$) Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent 50 Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent 200 100 360 180 Multiple dependent claims **Total Claims Multiple Dependent Claims** Extra Claims Fee (\$) Fee Paid (\$) 48 - 37 - 20 or HP = 11 25 Fee Paid (\$) X Fee (\$) HP = highest number of total claims paid for, if greater than 20 Fee Paid (\$) Indep. Claims Extra Claims Fee (\$) 1 100 5 - 4 - 3 or HP = 100 HP = highest number of independent claims paid for, if greater than 3 3. APPLICATION SIZE FEE If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). Number of each additional 50 or fraction thereof Fee Paid (\$) **Total Sheets Extra Sheets** Fee (\$) (round up to a whole number) x 4. OTHER FEE(S) Fees Paid (\$) Non-English Specification, \$130 fee (no small entity discount) Other: Information Disclosure Statement \$180.00 SUBMITTED BY Registration No. 42,531 Telephone 214-651-5662 Signature Name (Print/Type) Priscilla L. Ferguson Date January 25, 2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



oplication of: Christof Baur, et al.

Group Art Unit: 2881

Serial No. 10/684,120

Filed: October 10, 2003

Examiner: Jack I. Berman

SYSTEM AND METHOD FOR

PICKING AND PLACING OF

NANOSCALE OBJECTS UTILIZING DIFFERENCES IN CHEMICAL AND PHYSICAL BINDING FORCES

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner For Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

In compliance with the duty of disclosure under 37 CFR §1.56, and in accordance with the practice under 37 CFR §1.97 and §1.98, the Examiner's attention is directed to the documents listed on the enclosed modified Form PTO-1449. No inference should be made that the cited references are in fact material, are in fact prior art, or that no better art exists. The cited patents are listed in numerical order and are not in any order based on their pertinence.

The above-identified application was filed after June 30, 2003. Therefore, pursuant to the waiver of the requirement under 37 CFR 1.98 (a)(2)(i) as stated in a Pre-OG Notice dated July 11, 2003, copies of only the non-patent literature listed on the enclosed modified Form PTO-1449 are attached.

This Information Disclosure Statement is being filed more than three months after the United States filing date and after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Action under §1.113 or Notice of Allowance under §1.311 (37 CFR §1.97(c)).

Accompanying this transmittal is the \$180.00 fee set forth in 37 CFR §1.17(p) for submission of an Information Disclosure Statement under §1.97(c).

The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to Deposit Account 08-1394.

01/31/2005 AWONDAF1 00000149 10684120

01 FC:1806

180.00 OP

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Respectfully submitted,

Priscilla L. Ferguson

Registration No. 42,531

Date: <u>January</u> 25, 2005

HAYNES AND BOONE, LLP 901 Main Street, Suite 3100 Dallas, Texas 75202-3789 Telephone: 214-651-5662

Facsimile: 214-200-0853 File: 34003.55

File: 34003.55 D-1311545.1 EXPRESS MAIL NO .: EV 319174305 US

DATE OF DEPOSIT: 1/25/2005

This paper and fee are being deposited with the U.S. Postal Service Express Mail Post Office to Addressee service under 37 CFR §1.10 on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name of person mailing paper and fee

Signature of person mailing paper and fee

In place of PTO-1449 Form	U. S. DEPARTN PATENT AND T	RADEMA	RK OFFICE	Complete if Known	
•			IAN 2 m som	Application Number	10/684,120
INFO	ORMATION DI	ISC SO	SURE ARD A	Filing Date:	October 10, 2003
∥ QTA	TEMENT RV	$\Lambda DDYM$	CANT &	Applicant(s)	Christof Baur, et al.
. (use as many sheets a	as necessi	MADENADRE	Art Unit	2881
				Examiner Name	Jack I. Berman
SHEET	1	OF	2	Attorney Docket Number	34003.55

U.S. PATENT DOCUMENTS					
Examiner's	Cite / No.	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	
	A1	5,144,148	09/01/1992	Donald M. Eigler	
			L.,		

OTHER PRIOR ART					
Examiner's	Cite	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-issue number(s), publisher, city/country where published.			
	A2	M.T. CUBERES, R.R. SCHLITTLER, J.K. GIMZEWSKI; Manipulation of C ₆₀ molecules on Cu(111) surfaces using a scanning tunneling microscope; Appl. Phys. A 66, S669-S673 (1998)			
-	A3	J.T. LI, W.D. SCHNEIDER, R. BERNDT; Low-temperature manipulation of Ag atoms and clusters on a Ag (110) surface; Appl. Phys. A 66, S675-S678 (1998)			
	A4	M.T. CUBERES, R.R. SCHLITTLER, J.K. GIMZEWSKI; Supramolecular assembly of individual C ₆₀ molecules on a monolayer of 4, 4'-dimethylbianthrone molecules; Appl. Phys. A 66, S745-S748 (1998)			
33	A5	T. SHIMIZU, J.T. KIM. H. TOKUMOTO; Tungsten silicide formation on an STM tip during atom manipulation; Appl. Phys. A 66, S771-S775 (1998)			
	A6	G. MEYER, L. BARTELS, S. ZÖPHEL, K.H. RIEDER; Lateral manipulation of adatoms and native substrate atoms with the low-temperature scanning tunneling microscope; Appl. Phys. A 68, 125-129 (1999)			
	A7	X. HU, P. VON BLANCKENHAGEN; Nano-scale metal cluster deposition using STM; Appl. Phys. A 68, 137-143 (1999)			
	A8	A.A.G. REQUICHA, S. MELTZER, R. RESCH, D. LEWIS, B.E. KOEL, M.E. THOMPSON; Layered nanoassembly of three-dimensional structures; Laboratory for Molecular Robotics, University of Southern California			
	A9	J.W. LYDING. G.C. ABEIN, T.C. SHEN, C. WANG, J.R.TUCKER; Nanometer scale patterning and oxidation of silicon surfaces with an ultrahigh vacuum scanning tunneling microscope; J. Vac. Sci. Technol. B 12(6), Nov/Dec 1994, pp. 3735-3740			
	A10	G.C. ABEIN, M.C. HERSAM, D.S. THOMPSON, S.T. HWANG, H. CHOI, J.S. MOORE, AND J.W. LYDING; Approaches to nanofabrication on Si(100) surfaces: Selective area chemical vapor deposition of metals and selective chemisorption of organic molecules; J. Vac. Sci. Technol. B 16(6), Nov/Dec 1998, pp. 3874-3878			
	A11	R. RESCH, C. BAUR, A. BUGACOV, B.E. KOEL, A. MADHUKAR, A.A.G. REQUICHA, P. WILL; Building and manipulating three-dimensional and linked two-dimensional structures of nanoparticles using scanning force microscopy; Langmuir The ACS Journal of Surfaces and Colloids, November 10, 1998, Vol. 14, No. 23			
	A12	J.S. FOSTER, J.E. FROMMER, P.C. ARNETT; <i>Molecular manipulation using a tunneling microscope;</i> IBM Research Division, Almaden Research Center, San Jose, California; Nature Vol. 331, January 28, 1988, pp. 324-326			
	A13	G. DUJARDIN, A. MAYNE, O. ROBERT, F. ROSE, C. JOACHIM, H. TANG; Vertical manipulation of individual atoms by a direct STM tip-surface contact on Ge(111); Physical Review Letters, Vol. 80, No. 14, April 6, 1998, pp. 3085-3088			

Examiner	Date Considered	
Signature		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

In place of PTO-1449 Form			F COMMERCE MARK OFFICE	Complete if Known	
1 01111				Application Number	10/684,120
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Filing Date	October 10, 2003
				Applicant(s)	Christof Baur, et al.
				Art Unit	2881
				Examiner Name	Jack I. Berman
SHEET	2	OF	2	Attorney Docket Number	34003.55

OTHER PRIOR ART					
Examiner's	Cite	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-			
Initials	No. B1	issue number(s), publisher, city/country where published SAW-WAI HLA; LUDWIG BARTELS, GERHARD MEYER, KARL-HEINZ RIEDER; Inducing all steps of a chemical reaction with the scanning tunneling microscope tip: towards single molecule engineering; Physical Review Letters, Vol. 85, No. 13, September 25, 2000, pp. 2777-2780			
	B2	IN-WHAN LYO, PHAEDON AVOURIS; Field-induced nanometer- to atomic-scale manipulation of silicon surfaces with the STM; IBM Research Division, T.J. Watson Research Center, Yorktown Heights, NY; Science Vol. 253; pp. 173-176			
	В3	SAW-WAI HLA, KARL-HEINZ RIEDER; Engineering of single molecules with a scanning tunneling microscope tip; Superlattices and Microstructures, Vol. 31, No. 1, 2002, pp. 63-72			
·					
·					

Examiner	Date	
Signature	Considered	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.